UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,467.	12/08/2003	Steven J. Tu	INTEL/17879	2887

7590 05/01/2006	EXAMINER
GROSSMAN & FLIGHT LLC	LEE, CHRISTOPHER E

ART UNIT	PAPER NUMBER
2112	

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DATE MAILED: 05/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Advisory Action *Before the Filing of an Appeal Brief*	Application No.	Applicant(s)
	10/730,467	TU ET AL.
	Examiner	Art Unit	
	Christopher E. Lee	2112	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED <u>14 April 2006</u> FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

    a) ☐ The period for reply expires _____months from the mailing date of the final rejection.

    b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

    Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

<u>NOTICE OF APPEAL</u>

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

<u>AMENDMENTS</u>

3. ☒ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will <u>not</u> be entered because

    (a) ☒ They raise new issues that would require further consideration and/or search (see NOTE below);

    (b) ☐ They raise the issue of new matter (see NOTE below);

    (c) ☒ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or

    (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

    NOTE: *See Continuation Sheet.* (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).

5. ☐ Applicant's reply has overcome the following rejection(s): _____.

6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

7. ☒ For purposes of appeal, the proposed amendment(s): a) ☒ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

    The status of the claim(s) is (or will be) as follows:

    Claim(s) allowed: *5,11,18 and 25*.

    Claim(s) objected to: _____.

    Claim(s) rejected: *1-4,10,12-17,19-24 and 26-34*.

    Claim(s) withdrawn from consideration: _____.

<u>AFFIDAVIT OR OTHER EVIDENCE</u>

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will <u>not</u> be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).

9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will <u>not</u> be entered because the affidavit or other evidence failed to overcome <u>all</u> rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).

10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

<u>REQUEST FOR RECONSIDERATION/OTHER</u>

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: <u>See Continuation Sheet.</u>

12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____.

13. ☐ Other: _____.

Christopher E. Lee
Christopher E. Lee
Patent Examiner
Art Unit: 2112

Continuation of 3. NOTE: The proposed amendment raises a new issue "a method step of generating an interrupt weighted average" in the claim 28, which has not been considered, and which extends the scope of the claimed invention. Therefore, it requires further consideration and/or search, and will not be entered.

Continuation of 11. does NOT place the application in condition for allowance because:

In response to the Applicants' argument with respect to "Turning to the art rejections, ... Independent claims 1, 8, 15, 21, and 28 are directed, respectively, to a method, machine readable medium storing instructions, apparatus, and system that, inter alia, generates an interrupt weighted average (IWA) for each of a plurality of processors. None of the cited references teaches or suggests generating an IWA for each of a plurality of processors, as recited in claims 1, 8, 15, and 21. ... Because Nakagawa does not disclose or suggest, either expressly or inherently, generating an interrupt weighted average (IWA) for each of a plurality of processors, Nakagawa cannot anticipate independent claim 1. Moreover, even if the official action were to allege that Nakagawa inherently disclosed or suggested generating an IWA, the official action fails to provide the applicants with 'a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.' ... In an apparent attempt to provide the requisite basis in fact or technical reasoning, the examiner states that Nakagawa achieves a good balance between processor load and interrupt load as being a similar objective to the claimed invention of the applicants'. ... However, '[T]he fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic.' ... In light of Nakagawa's silence to an average, a weight, much less an interrupt weighted average, and the examiner's failure to provide a basis in fact or technical reasoning to support a contention that an interrupt weighted average necessarily flows from the teachings of Nakagawa, the applicants respectfully maintain that Nakagawa fails to anticipate the claimed subject matter." in the Response page 12, line 9 through page 13, line 14, the Examiner respectfully disagrees.

Essentially, the Applicants allege that Nakagawa does not disclose or suggest the claimed limitation "generating an interrupt weighted average (IWA) for each of a plurality of processors." In contrary to this allegation, Nakagawa anticipates the limitation such that generating an interrupt load distribution schedule (i.e., interrupt weighted average - IWA) for each of a plurality of processors, i.e., processor (1) ... processor (N) in a processor group 50, based on information from processor statistical information table 12 and interrupt schedule information table 12 (i.e., interrupt dispatch information) associated with the plurality of processors in Fig. 1 (See Nakagawa, Figs. 5 and 6, and col. 6, line 62 through col. 7, line 65).

In particular, the Applicants assert that the Examiner failed to provide a basis in fact or technical reasoning to support a contention that an interrupt weighted average (IWA) necessarily flows from the teachings of Nakagawa, and further, the Applicants allege that Nakagawa is silent to an average, a weight, much less an interrupt weighted average.

However, the claimed invention does not clearly define (in other words, limit) the claimed subject matter "interrupt weighted average (IWA)," which could not be anticipated by Nakagawa.

In fact, the Applicants explicitly define in the specification such the interrupt weighted average (IWA) as a calculated value based on the weights of the interrupt load balancing parameters on page 7, paragraph [0018], which is similar to Nakagawa's "interrupt load distribution schedule," such as a determined ratio based on the statistical information in the interrupt schedule information table for distributing interrupt load in col. 6, line 62 through col. 7, line 47, which would be an enough basis of technical reasoning to support a contention that an interrupt weighted average (IWA) is clearly anticipated by Nakagawa's "interrupt load distribution schedule."

Moreover, even though Nakagawa does not use the language "weight" and "average" in the disclosure, the language "weight" and "average" in the claimed subject matter "interrupt weighted average (IWA)" is no more than a list of terms for statistical information, which is clearly anticipated by Nakagawa.

Thus, the Applicants' argument on this point is not persuasive.

In response to the Applicants' argument with respect to "The official action also appears to contend that the interrupt load distribution schedule, which is based on the information in the interrupt schedule information table (FIG. 3), and the processor statistical information table (FIG. 2) constitute an interrupt weighted average. However, this apparent interpretation is provided without any supporting evidence or reasoning. On the contrary, a close review of Nakagawa provides evidence contrary to the examiner's position. In particular, Nakagawa clearly describes the processor statistical information table of FIG. 2 as storing information pertaining to the processors (1)-(N) over a given time period for reference by the interrupt scheduler. (See Nakagawa, FIG. 2 and Col. 6, lines 29-38). In other words, the processor statistical information table identifies a load status of each processor. Furthermore, Nakagawa describes the interrupt schedule information table of FIG. 3 as specified rules applied to predefined processor numbers. For example, FIG. 3 illustrates that a pre-determined processor handles an interrupt and, unlike a weight, process logic specifies rules to be observed. (See Nakagawa, FIG. 3 and Col. 6, lines 39-46). Nakagawa clearly fails to disclose or suggest that either the processor statistical information table of FIG. 2 or the interrupt schedule information table of FIG. 3 constitute a weight, much less an interrupt weighted average." in the Response page 13, line 15 through page 14, line 6, the Examiner respectfully disagrees.

Essentially, the Applicants assert that the processor statistical information table identifies a load status of each processor, and a pre-determined processor handles an interrupt and process logic specifies rules to be observed in Nakagawa, and thus Nakagawa fails to disclose or suggest that either the processor statistical information table of FIG. 2 or the interrupt schedule information table of FIG. 3 constitute a weight, much less an interrupt weighted average.

However, the claimed invention does not clearly define (in other words, limit) the claimed subject matter "interrupt weighted average (IWA)," which could exclude the anticipation of the claimed invention from Nakagawa. In fact, the Applicants explicitly define in the specification such the interrupt weighted average (IWA) as a calculated value based on the weights of the interrupt load balancing parameters on page 7, paragraph [0018], which is similar to Nakagawa's "interrupt load distribution schedule," such as a determined ratio based on the statistical information in the interrupt schedule information table for distributing interrupt load in col. 6, line 62 through col. 7, line 47, which would be an enough basis of technical reasoning to support a contention that an interrupt weighted average (IWA) is clearly anticipated by Nakagawa's "interrupt load distribution schedule."

Furthermore, as the Applicants admitted in the above assertion, i.e., the processor statistical information table identifies a load status of each processor, and a pre-determined processor handles an interrupt and process logic specifies rules to be observed in Nakagawa, the Applicants' invention is performing similar operations, such as   identifying a IWA (i.e., load status) of each processor (See

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specification, page 7, paragraph [0018], lines 1-6), and a pre-determined processor handling an interrupt and process logic specifying rules to be observed (See specification, pages 5-6, paragraphs [0013]-[0015]). Moreover, the term "weight" is no more than "a numerical coefficient assigned to an item to express its relative importance in a frequency distribution" by a definition from Merriam-Webster's Collegiate® Dictionary (10th ed.). In other words, the simple term "weight" cannot exclusively distinguish from Nakagawa's statistical information for the interrupt schedule.

Thus, the Applicants' argument on this point is not persuasive.

In response to the Applicants' argument with respect to "... More specifically, rather than an interrupt weighted average, as recited by independent claim 1, Nakagawa requires that all activity ratios (i.e., X%, Y%) and number of processes (i.e., P) exceed pre-determined criterion values (i.e., XS%, YS%, PS) before a load distribution is rescheduled. [See FIGS. 5 and 6, Col. 6, line 62 through Col. 7, line 40]. If one or more of the activity ratios is equal to or below the criterion values, then no rescheduling is performed and the interrupt scheduler enters a wait mode. [See FIGS. 5 and 6, Col. 7, lines 40-46]. Generally speaking, Nakagawa responds based on whether or not thresholds are exceeded rather than an interrupt weighted average. As a result, Nakagawa is completely devoid of any teaching or suggestion that a weighted average, much less an interrupt weighted average as recited in claim 1, can or should be used to schedule interrupt load distribution. ..." in the Response page 14, line 7 through page 15, line 8, the Examiner respectfully disagrees.

In fact, the claim 1 recites "generating an interrupt weighted average (IWA) for each of a plurality of processors based on interrupt dispatch information associated with the plurality of processors" in lines 2-3. In contrary to the Applicants' statement, the claim 1 does not limit the scope of claimed invention such as scheduling interrupt based on whether or not thresholds exceeded should be excluded from the claimed subject matter "an interrupt weighted average." Actually, an interrupt weighted average could be broadly interpreted as a statistical information for interrupt distribution of Nakagawa in light of the specification and a definition of the term "weight" from Merriam-Webster's Collegiate® Dictionary (10th ed.).

Therefore, Nakagawa is clearly anticipating the scope of the claimed invention, and thus, the Applicants' argument on this point is not persuasive.